

# Recipe Analysis Worksheet

Ingredients	Amount	Meat/Meat Alternate	Fruit/Vegetable (¼ cup)	Grains/Breads ½ slice bread or equivalent	Milk (as a beverage)
	<b>Total</b>				
	<b>Calculations</b>				
	<b>Number of Servings</b>				

## Instructions:

- 1) List all the ingredients in the left hand column and the amount of each ingredient in the 2<sup>nd</sup> column.
- 2) Find the meat/meat alternate and fruit/vegetable ingredients under Common Food Yields or use the Food Buying Guide to determine food yields. Record the yield of meat/meat alternate in ounces and the yield of fruit/vegetable in ¼ cup servings. Determine the yield of grains/breads using the Grains and Breads Chart or follow the steps outlined in Determining the Number of Grains/Breads Servings in a Recipe. Record the yield of grains/breads in ½ slice bread equivalents.
- 3) Determine the number of 1.5 ounce meat/meat alternate servings for children 3-5 years old by dividing the total by 1.5. Divide the total by 2 to find the number of 2 ounce servings provided for children 6-12 years old.
- 4) Round the total for fruit/vegetables and grains/breads down to the nearest whole number of servings.

**It is recommended that recipes that include foods from more than two food groups be credited for no more than two different meal components.**

# Common Food Yields

The following are common ingredients used in recipes served in day care homes and child care centers. Yields and servings correspond to required amounts for 3-5 year olds for lunch or supper. These yields are rounded to the nearest whole number.

<b>Meat/Meat Alternates</b>			
<b>Meat/Meat Alternate</b>	<b>Amount as Purchased</b>	<b>Yield after Preparation</b>	<b>Number of 1.5 ounce Servings or Equivalents</b>
Beef, ground	1 pound	11.5 ounces	7
Cheese	1 pound	16 ounces	10
Cheese Spread, processed cheese food	1 pound	-	5
Chicken, boneless	1 pound	11.2 ounces	7
Chicken with bone	1 pound	7.68 ounces	5
Cottage Cheese	1 cup	-	2.65
Dry Beans	1 pound	23 ounces	13
Ham, boneless	1 pound	10 ounces	6
Pork, ground	1 pound	11.5 ounces	7
Tuna	1 – 6.5 ounce can	5.7 ounces	3
Turkey, ground	1 pound	12.6 ounces	8

<b>Grains/Breads</b>		
<b>Grains/Breads</b>	<b>Amount Uncooked</b>	<b>Number of ¼ Cup Servings</b>
Egg Noodles	1 pound	36
Elbow Macaroni	1 pound	36
Lasagna Noodles	1 pound	36
Rice, white, enriched	1 cup (1 c raw = 3 c cooked)	12
Rice, white, enriched	1 pound (1 lb raw = 3 lb cooked)	36
Spaghetti	1 pound	36

<b>Fruits/Vegetables</b>		
<b>Fruit/Vegetable</b>	<b>Amount Raw</b>	<b>Number of ¼ Cup Servings</b>
Apples, fresh	1 pound	12
Bananas, fresh	1 pound	8
Blackberries, fresh	1 pound	11
Blackberries, frozen	1 pound	9
Blueberries, fresh	1 pound	11
Blueberries, frozen	1 pound	7
Broccoli, fresh or frozen	1 pound	9
Cantaloupe, fresh	1 pound	5
Carrots	6 sticks (4" x ½")*	1
Celery, fresh (sliced)	1 pound 4 sticks (3" x ¾")*	8 1

<b>Fruits/Vegetables (continued)</b>		
<b>Fruit/Vegetable</b>	<b>Amount Raw</b>	<b>Number of ¼ Cup Servings</b>
Cherries, fresh	1 pound	8
	7 cherries*	1
Cherries, frozen	1 pound	7
Corn, canned, whole kernel (vacuum-packed)	16 ounces	8
Corn, frozen, whole kernel	1 pound	11
Cucumber, fresh	4 slices (1/8" thick)	1
Dates, dehydrated, pitted	1 pound	11
Grapes, fresh, seedless	1 pound	10
	9 grapes*	1
Green beans, canned, whole	16 ounces	8
Green beans, frozen, cut	1 pound	11
Honeydew melon, fresh	1 pound	4
Kidney beans, canned	16 ounces	6
Lettuce, iceberg	1 piece (4¼" x 4¼")*	1
Oranges, fresh	1 pound	7
Peaches, fresh	1 pound	5
Peas, canned	1 pound	6
Peas, frozen	1 pound	10
Potatoes, fresh, white	1 pound	8
Potatoes, frozen, hash browns	1 pound	7
Potatoes, frozen, tater tots or rounds	1 pound	12
Raisins	1 pound	12
	1.3-1.5 ounce package	1
Raspberries, fresh	1 pound	12
Strawberries, fresh	1 pound	10
Strawberries, frozen	1 pound	7
Tomatoes, canned	16 ounce	7
Tomatoes, cherry	4 tomatoes*	1
Tomatoes, fresh	2 slices (¼" thick)	1
Tomato Paste	12 ounces (1T = ¼ c sauce)	20
Tomato Puree	16 ounces (2 T = ¼ cup sauce)	14
Tomato Sauce	15 ounces	7
Tomato soup (condensed)	1 can (10¾ ounce)	2
Watermelon, fresh	1 pound	6

\* Numbers are approximate

## Grains and Breads

GROUP A	MINIMUM SERVING SIZE FOR GROUP A
<ul style="list-style-type: none"> <li>• Bread type coating</li> <li>• Bread sticks (hard)</li> <li>• Chow mien noodles</li> <li>• Crackers (saltines and snack crackers)</li> <li>• Croutons</li> <li>• Pretzels (hard)</li> <li>• Stuffing (dry) Note: weights apply to bread in stuffing</li> </ul>	1 serving = 20 gm or 0.7 oz ¾ serving = 15 gm or 0.5 oz ½ serving = 10 gm or 0.4 oz ¼ serving = 5 gm or 0.2 oz
GROUP B	MINIMUM SERVING SIZE FOR GROUP B
<ul style="list-style-type: none"> <li>• Bagels</li> <li>• Batter type coating</li> <li>• Biscuits</li> <li>• Breads (white, wheat, whole wheat, French, Italian)</li> <li>• Buns (hamburger and hotdog)</li> <li>• Crackers (graham crackers - all shapes, animal crackers)</li> <li>• Egg roll skins</li> <li>• English muffins</li> <li>• Pita bread (white, wheat, whole wheat)</li> <li>• Pizza crust</li> <li>• Pretzels (soft)</li> <li>• Rolls (white, wheat, whole wheat, potato)</li> <li>• Tortillas (wheat or corn)</li> <li>• Tortilla chips (wheat or corn)</li> <li>• Taco shells</li> </ul>	1 serving = 25 gm or 0.9 oz ¾ serving = 19 gm or 0.7 oz ½ serving = 13 gm or 0.5 oz ¼ serving = 6 gm or 0.2 oz
GROUP C	MINIMUM SERVING SIZE FOR GROUP C
<ul style="list-style-type: none"> <li>• Cookies <sup>2</sup> (plain)</li> <li>• Cornbread</li> <li>• Corn muffins</li> <li>• Croissants</li> <li>• Pancakes</li> <li>• Pie crust (dessert pies <sup>2</sup>, fruit turnovers <sup>3</sup>, and meat/meat alternate pies)</li> <li>• Waffles</li> </ul>	1 serving = 31 gm or 1.1 oz ¾ serving = 23 gm or 0.8 oz ½ serving = 16 gm or 0.6 oz ¼ serving = 8 gm or 0.3 oz

<sup>1</sup> Some of the following foods or their accompaniments may contain more sugar, salt, and/or fat than others. This should be a consideration when deciding how often to serve them.

<sup>2</sup> Allowed only for desserts under the enhanced food-based menu planning alternative specified in §210.10 and supplements (snacks) served under the NSLP, SFSP, and CACFP.

<sup>3</sup> Allowed for desserts under the enhanced food-based menu planning alternative specified in §210.10 and supplements (snacks) served under the NSLP, SFSP, and CACFP, and for breakfasts served under the SBP, SFSP and CACFP.

<b>GROUP D</b>	<b>MINIMUM SERVING SIZE FOR GROUP D</b>
<ul style="list-style-type: none"> <li>• Doughnuts <sup>3</sup> (cake and yeast raised, unfrosted)</li> <li>• Granola bars <sup>3</sup> (plain)</li> <li>• Muffins (all, except corn)</li> <li>• Sweet roll <sup>3</sup> (unfrosted)</li> <li>• Toaster pastry <sup>3</sup> (unfrosted)</li> </ul>	1 serving = 50 gm or 1.8 oz $\frac{3}{4}$ serving = 38 gm or 1.3 oz $\frac{1}{2}$ serving = 25 gm or 0.9 oz $\frac{1}{4}$ serving = 13 gm or 0.5 oz
<b>GROUP E</b>	<b>MINIMUM SERVING SIZE FOR GROUP E</b>
<ul style="list-style-type: none"> <li>• Cookies <sup>2</sup> (with nuts, raisins, chocolate pieces and/or fruit purees)</li> <li>• Doughnuts <sup>3</sup> (cake and yeast raised, frosted or glazed)</li> <li>• French toast</li> <li>• Grain fruit bars <sup>3</sup></li> <li>• Granola bars <sup>3</sup> (with nuts, raisins, chocolate pieces and/or fruit)</li> <li>• Sweet rolls <sup>3</sup> (frosted)</li> <li>• Toaster pastry <sup>3</sup> (frosted)</li> </ul>	1 serving = 63 gm or 2.2 oz $\frac{3}{4}$ serving = 47 gm or 1.7 oz $\frac{1}{2}$ serving = 31 gm or 1.1 oz $\frac{1}{4}$ serving = 16 gm or 0.6 oz
<b>GROUP F</b>	<b>MINIMUM SERVING SIZE FOR GROUP F</b>
<ul style="list-style-type: none"> <li>• Cake <sup>2</sup> (plain, unfrosted)</li> <li>• Coffee cake <sup>3</sup></li> </ul>	1 serving = 75 gm or 2.7 oz $\frac{3}{4}$ serving = 56 gm or 2 oz $\frac{1}{2}$ serving = 38 gm or 1.3 oz $\frac{1}{4}$ serving = 19 gm or 0.7 oz
<b>GROUP G</b>	<b>MINIMUM SERVING SIZE FOR GROUP G</b>
<ul style="list-style-type: none"> <li>• Brownies <sup>2</sup> (plain)</li> <li>• Cake <sup>2</sup> (all varieties, frosted)</li> </ul>	1 serving = 115 gm or 4 oz $\frac{3}{4}$ serving = 86 gm or 3 oz $\frac{1}{2}$ serving = 58 gm or 2 oz $\frac{1}{4}$ serving = 29 gm or 1 oz
<b>GROUP H</b>	<b>MINIMUM SERVING SIZE FOR GROUP H</b>
<ul style="list-style-type: none"> <li>• Barley</li> <li>• Breakfast cereals (cooked) <sup>4</sup></li> <li>• Bulgur or cracked wheat</li> <li>• Macaroni (all shapes)</li> <li>• Noodles (all varieties)</li> <li>• Pasta (all shapes)</li> <li>• Ravioli (noodle only)</li> <li>• Rice (enriched white or brown)</li> </ul>	1 serving = $\frac{1}{2}$ cup cooked (or 25 gm dry)
<b>GROUP I</b>	<b>MINIMUM SERVING SIZE FOR GROUP I</b>
<ul style="list-style-type: none"> <li>• Ready to eat breakfast cereal (cold dry) <sup>4</sup></li> </ul>	1 serving = $\frac{3}{4}$ cup or 1 oz, whichever is less

<sup>4</sup> Refer to program regulations for the appropriate serving size for supplements served to children aged 1 through 5 in the NSLP; breakfasts served under the SBP; and meals served to children ages 1 through 5 and adult participants in the CACFP. Breakfast cereals are traditionally served as a breakfast menu item but may be served in meals other than breakfast.

# Determining the Number of Grains/Breads Servings in a Recipe

Determining the number of grains/breads servings in a recipe is an important step in assuring that the meals you serve are nutritious and meet Federal meal pattern requirements. One serving of grain/bread must contain 14.75 grams of whole-grain meal, bran, germ, or enriched flour. For crediting other types of dry, whole-grain cereal in a recipe, 25 grams is used as the equivalent of one grains/breads serving.

To determine the number of grains/breads servings in a recipe, follow the steps below. On a page to follow there is an example recipe that was evaluated following these steps.

1. Under Ingredients-A, list any oatmeal, cornmeal, whole-grain bran, germ or enriched flour used in the recipe. List the quantity of these ingredients under Quantity. Use the chart on the following page to convert fractions to decimal values. 2. Under Ingredients-B, list any other dry, whole-grain cereal ingredients used in the recipe. List the quantity of these ingredients under Quantity. Use the chart on the following page to convert fractions to decimal values. 3. Use the chart, "Weights of One Cup of Commonly Used Ingredients," from this packet to determine the gram weight of each ingredient listed. Record this under Grams Per Cup. 4. Multiply the Quantity (1 and 2) by the Grams Per Cup (3) to determine the Total Gram Weight of the ingredients. 5. Divide the Total Gram Weight (4) by the factor indicated to determine the Grains/Bread Contribution. 6. Add all values under Grains/Breads Contribution (5) to determine the Total Grains/Breads Contribution. 7. Divide the Total Grains/Breads Contribution (6) by the number of servings in the recipe to determine the Grains/Breads per Serving of Recipe. Round down to the nearest ¼ of a serving (7).							
Ingredients-A	Quantity		Grams Per Cup		Total Gram Weight		Grains/Breads Contribution
(1)	(1)	x	(3)	=	(4)	÷ 14.75	= (5)
(1)	(1)	x	(3)	=	(4)	÷ 14.75	= (5)
(1)	(1)	x	(3)	=	(4)	÷ 14.75	= (5)
Ingredients-B	Quantity		Grams Per Cup		Total Gram Weight		Grains/Breads Contribution
(2)	(2)	x	(3)		(4)	÷ 25	= (5)
(2)	(2)	x	(3)		(4)	÷ 25	= (5)
(2)	(2)	x	(3)		(4)	÷ 25	= (5)
Total Grains/Breads Contribution							(6)
÷ Total Number of Servings							
Grains/Breads Per Serving of Recipe							(7)

## Common Abbreviations

tsp or t.....teaspoon	wt.....weight
Tbsp or T.....tablespoon	No.....number
c.....cup	pkg.....package
oz.....ounce	° F.....degrees Fahrenheit
fl oz.....fluid ounce	g.....gram
lb or #.....pound	mg.....milligram
pt.....pint	L.....liter
qt.....quart	mL.....milliliter
gal.....gallon	

## Common Measures and Equivalents

3 tsp = 1 T	16 oz = 1 lb
2 T = 1/8 cup	1 lb = 454 g
4 T = 1/4 cup	2 c = 1/2 qt
5-1/3 T = 1/3 cup	4 c = 1 qt
8 T = 1/2 cup	8 c = 1/2 gal
16 T = 1 cup	1 pt = 2 c
1 oz = 28.3 g	2 pt = 1 qt
4 oz = 1/4 lb	2 qt = 1/2 gal
8 oz = 1/2 lb	4 qt = 1 gal
12 oz = 3/4 lb	

## Conversion Factors

The following chart is helpful for determining the crediting of many homemade foods. To find the weight of a fraction of a cup, follow the directions in the table below.

Multiply the weight of one cup by:	To find the weight of:
0.75	3/4 cup
0.66	2/3 cup
0.50	1/2 cup
0.33	1/3 cup
0.25	1/4 cup
0.12	1/8 cup

# Weights of One Cup of Commonly Used Ingredients

The use of company or product names does not imply approval or endorsement of products by the USDA. Product names are given only for clarification.

Food Item	Type	Weight of One Cup (grams)
Barley	Uncooked	195
	Cooked	162
Breadcrumbs	Fine, dry	107
	Soft	43
Bulgur	Uncooked	140
	Cooked	182
Cereals	All-Bran	61
	Bran Buds	75
	Cheerios	28
	Corn Chex	29
	Corn Flakes, crushed	80
	Corn Flakes, whole	29
	Puffed Rice	13
	Rice Chex	33
	Rice Krispies	27
	Wheaties	32
Cornmeal, enriched, uncooked	Yellow, degerminated	151
	Yellow, stone-ground	132
Cracker Crumbs	Graham	84
	Snack, round	80
Flour, cake	Unsifted, dipped	119
	Unsifted, spooned	111
	Sifted, spooned	99
Flour, rice, brown	Unsifted, spooned	158
Flour, rice, white	Unsifted, spooned	149
Four, rye, dark	Unstirred, spooned	128
	Stirred, spooned	127
Flour, rye, light	Unstirred, spooned	101
	Stirred, spooned	88
Flour, wheat, all-purpose	Unsifted, dipped	143
	Unsifted, spooned	126
	Sifted, spooned	116
Flour, wheat, bread	Unsifted, dipped	136
	Unsifted, spooned	123
	Sifted, spooned	117
Flour, wheat, self-rising	Unsifted, dipped	130
	Unsifted, spooned	127
	Sifted, spooned	106
Flour, whole-wheat	Stirred, spooned	120
Germ, wheat	Spooned	115
Oat Bran*	Raw	93
	Cooked	220
Oats, rolled, quick	Uncooked	73
	Ground	109
Oats, rolled, regular	Uncooked	75
Wheat Bran *	Untoasted	60
	Toasted	84

Taken from: *Average Weight of a Measured Cup of Various Foods*, Home Economics Research Report No. 41, USDA.

\* Pennington, Jean A.T. *Food Values of Portions Commonly Used*, Sixteenth Edition, 1994.



# Chili Macaroni Recipe Evaluation

Ingredients	Amount	Meat/Meat Alternate	Fruit/Vegetable (¼ cup)	Grains/Breads ½ slice bread or equivalent	Milk (as a beverage)
Ground Beef	1 pound	11.5 ounces			
Elbow Macaroni	8 ounces			18	
Tomato Sauce	2- 8 ounce cans		7.6		
Cheese, grated	1/2 cup	2 ounces			
Green Pepper, chopped	1/4 cup		1		
Onion, chopped	1/4 cup		1		
	<b>Total</b>	13.5 ounces	9.6 ¼ cup servings	18 servings	
	<b>Calculations</b>	$13.5 \div 1.5 = 9$			
	<b>Number of Servings</b>	9 1½ ounce servings	9 servings	18 servings	

**Crediting meat/meat alternate and fruit/vegetable:** The maximum number of servings that can be provided is nine because the recipe yields nine servings of meat/meat alternate and fruit/vegetable.

**Crediting meat/meat alternate and bread/grains:** The maximum number of servings that can be provided is nine because the recipe yields nine servings of meat/meat alternate.

**Crediting fruit/vegetable and grains/breads:** The maximum number of servings that can be provided is nine because the recipe yields nine servings of fruit/vegetables.

1. Cream sugar and margarine or butter until smooth.
2. Slowly add egg. Mix on medium speed for one minute.
3. Add milk and applesauce. Mix for one minute.
4. In a small bowl, combine flour, baking soda, cinnamon, and nutmeg.
5. Gradually add dry ingredients to the creamed mixture. Mix on low speed.
6. Portion dough by rounded spoonfuls onto a lightly greased cookie sheet.
7. Bake for 10-13 minutes until lightly browned. Cook on a wire rack.

Yield: 24 cookies

- | Ingredients-A  | Quantity   |   | Grams Per Cup |   | Total Gram Weight |   |       |   | Grains/Breads Contribution |
|--|------------|---|---------------|---|-------------------|---|-------|---|----------------------------|
| Flour (1)  | .75 c (1)  | x | 126 (3)       | = | 94.5 (4)          | ÷ | 14.75 | = | 6.4 (5)                    |
| Oatmeal (1)  | 1.25 c (1) | x | 73 (3)        | = | 91.25 (4)         | ÷ | 14.75 | = | 6.2 (5)                    |
| (1)  | (1)        | x | (3)           | = | (4)               | ÷ | 14.75 | = | (5)                        |
| Ingredients-B  | Quantity   |   | Grams Per Cup |   | Total Gram Weight |   |       |   | Grains/Breads Contribution |
| (2)  | (2)        | x | (3)           |   | (4)               | ÷ | 25    | = | (5)                        |
| (2)  | (2)        | x | (3)           |   | (4)               | ÷ | 25    | = | (5)                        |
| (2)  | (2)        | X | (3)           |   | (4)               | ÷ | 25    | = | (5)                        |
| Total Grains/Breads Contribution   |            |   |               |   |                   |   |       |   | 12.6 (6)                   |
| ÷ Total Number of Servings   |            |   |               |   |                   |   |       |   | 24                         |
| Grains/Breads Per Serving of Recipe  |            |   |               |   |                   |   |       |   | .5 (7)                     |
| <p><b>One cookie provides ½ grains/breads serving.</b></p> <p><b>1 cookie is sufficient for 1-2 year olds and 3-5 year olds.</b></p> <p><b>2 cookies need to be served for 6-12 year olds.</b></p> |            |   |               |   |                   |   |       |   |                            |